stomatal opening, such as temperatures ranging from 70 to 90° F. and high humidity, also chance to favor maximal germination of spores and subsequent growth and therefore lead to severe leaf infection. Such studies as these will do much to lift the fog that shrouds the problem of infection in the field of phytopathology. The term "stomatal movement," of the title, is somewhat unfortunately chosen. The authors have established a relation between infection and stomatal opening rather than between infection and stomatal movement.—GEORGE K. K. LINK.

Addisonia.—This is the title of a new journal issued from the New York Botanical Garden devoted to "colored illustrations and popular descriptions of plants." It is issued quarterly, the first number bearing the date March 1916, and each number will consist of 10 colored plates with accompanying letter press. The subsidy for the journal is furnished by a fund left for this purpose by Judge ADDISON BROWN. This explains the name and also the color of the cover. The annual subscription price is $10. The illustrations and letter press of the initial number are of the highest order, the plants illustrated and described being *Rhododendron carolinianum*, *Cassia polyphylla*, *Robinia Kelseyi*, *Pachyphytum longifolium*, *Begonia Cowellii*, *Echeveria setosa*, *Columnea gloriosa*, *Fouquieria formosa*, *Maxillaria ringens*, and *Nopalea Auberi*.—J. M. C.

Dimery in Brassica.—Cases in which two or more genetic factors produce independently a single somatic character, or modify it in such a manner as not to destroy its identity, are being reported frequently. HALLQVIST[29] gives the results of crossing a form of *Brassica Napus* characterized by undivided leaves, with a form having strongly pinnatifid lobing. The F_2 families showed several grades of lobing in different plants, and in 493 individuals out of 8,296 the recessive unlobed type reappeared, this being almost exactly 1:15. All of the 23 separate F_2 families which make up this total likewise show a very close approximation to the same ratio. The investigation is being continued into the F_3.—GEO. H. SHULL.

Pollen sterility and hybrids.—GATES and GOODSPEED[30] have tested the claim that "bad pollen" is a criterion of hybridity by examining certain geographically isolated Californian plants which have had no opportunity for crossing. *Trillium sessile giganteum*, *Scoliopus Bigelovii*, *Dirca occidentalis*, *Ranunculus californicus*, and *Fritillaria lanceolata floribunda* were selected for examination, and remarkably high percentages of bad pollen were obtained. Their conclusion is that such pollen is not necessarily an indication of

[29] HALLQVIST, CARL, Ein neuer Fall von Dimerie bei *Brassica Napus*. Bot. Not. 1:39–42. 1916.

[30] GATES, R. R., and GOODSPEED, T. H., Pollen sterility in relation to crossing. Science 43:859–861. 1916.

hybridization, but that pollen sterility is a physiological condition which may be due to a variety of causes, hybridization and mutability being only two of them.—J. M. C.

Codium mucronatum.—Miss HURD[31] has made a study of *Codium mucronatum* from Puget Sound material, to establish the characteristics on the basis of which this species may be distinguished from other species, and to determine whether the division of this species into varieties (*californicum* J. G. Agardh and *novaezelandiae* J. G. Agardh) is justified. The study is a careful one and the plates will prove valuable to students of this genus. She suggests a detailed description for the species and concludes that the splitting of the species into varieties on the basis of the mucoronate tips of the utricles is not justified, since all of the described types are often found on the same plant.—GEORGE B. RIGG.

Röntgen rays.—KOERNICKE[32] finds that a small dosage of Röntgen rays accelerates growth of seeds and seedlings. In larger amounts it has no effect, while in still larger amounts it inhibits growth. In this regard Röntgen rays act like other rays and like toxic materials in general. *Vicia Faba* was especially favorable material for experimentation. Contrary to the claims of SCHWARZ, the effect of a stimulative dose at the seed or seedling stage was lost before maturity was reached. From the results of SCHWARZ, KOERNICKE had thought that Röntgen rays might be applied profitably in practice for increasing yield, but his work shows that this is not the case.—WILLIAM CROCKER.

Trigonocarpus and Ginkgo.—In 1914 SALISBURY[33] published an account of a new species of *Trigonocarpus*, and compared it with the seeds of *Ginkgo*. Later, Miss AFFOURTIT and Miss LA RIVIÈRE[34] investigated the seeds of *Ginkgo* and gave reasons for the belief that such a comparison is not valid. SALISBURY[35] has published a brief note in reply, pointing out more specifically the reasons for his view, and concludes that in the more important features of general organization the ovules of Ginkgoales, Cycadales, and *Trigonocarpus* exhibit a uniformity of construction difficult to explain except on the basis of affinity.—J. M. C.

---

[31] HURD, ANNIE M., *Codium mucronatum*. Puget Sound Marine Sta. Publ. **1**: 109–135. *pls. 19–24*. 1916.

[32] KOERNICKE, M., Über die Wirkung verschieden starker Röntgenstrahlen auf Keimung und Wachstum bei den höheren Pflanzen. Jahrb. Wiss. Bot. **56**:416–430. 1915. PFEFFER'S Festschrift.

[33] Review in BOT. GAZ. **57**:440. 1914.

[34] Review in BOT. GAZ. **61**:176. 1916.

[35] SALISBURY, E. J., On the relation between *Trigonocarpus* and *Ginkgo*. Ann. Botany **30**:356. 1916.